Cast & Splint Survival Guide

10 Immobilization Techniques Every MBBS Student Should Know

Introduction

Proper immobilization is one of the most important skills in Orthopaedics. Before definitive fixation, correct application of a cast or splint reduces pain, prevents further injury, and protects soft tissues.

Why Splints Before Casts?

Splints accommodate swelling and reduce the risk of compartment syndrome. Casts provide circumferential immobilization and are generally applied after swelling subsides.

1. Above Elbow Slab

Indications: • Supracondylar fractures
• Forearm fractures
• Elbow injuries

2. Below Elbow Slab

Indications: • Distal radius fractures
• Wrist injuries
• Stable forearm injuries

3. U-Slab

Indications: • Humeral shaft fractures Provides excellent rotational control.

4. Sugar Tong Splint

Indications: • Distal radius fractures
• Forearm fractures Controls pronation and supination.

5. Thumb Spica

Indications: • Scaphoid fractures
• First metacarpal injuries

6. Volar Slab

Indications: • Wrist sprains
• Stable wrist fractures

7. Posterior POP Slab

Indications: • Ankle injuries
• Foot injuries

8. Short Leg Cast

Indications: • Stable ankle fractures
• Foot fractures

9. Long Leg Cast
Indications: • Tibial fractures
• Knee ligament protection

10. Hip Spica (Basics)
Indications: • Pediatric femoral shaft fractures
• Selected hip conditions in children

The 5 Principles of Good Immobilization
1. Immobilize the fracture adequately.
2. Immobilize the joint above and below when appropriate.
3. Pad well to prevent pressure sores.
4. Reassess neurovascular status after application.
5. Educate the patient regarding warning signs.

Cast Complications
• Compartment syndrome
• Pressure sores
• Skin breakdown
• Nerve compression
• Thermal injury during application

Red Flag Symptoms
Advise patients to return immediately if they develop: • Increasing pain
• Numbness
• Swelling of digits
• Discoloration
• Inability to move fingers or toes

High-Yield Viva Questions
1. Difference between a cast and a splint?
2. Why is a splint preferred in acute trauma?
3. What are the indications of a thumb spica?
4. Which splint is used for humeral shaft fractures?
5. What complications can occur after cast application?

Memory Pearls
Thumb Spica → Scaphoid

U-Slab → Humerus
Sugar Tong → Distal Radius
Hip Spica → Child Femur

Life in Orthopaedics Take Home Message

A well-applied splint is often the first treatment a fracture receives. Good immobilization protects biology, reduces pain, and creates the foundation for successful fracture healing.

Dr Arnav Kadian | *Life in Orthopaedics* | *Where Healing Meets Movement*